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Subject: Re: [PATCH][NETNS] Make ifindex generation per-namespace  
Posted by [ebiederm](#) on Tue, 09 Oct 2007 17:41:16 GMT

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Pavel Emelyanov <xemul@openvz.org> writes:

- > Currently indexes for netdevices come sequentially one by
- > one, and the same stays true even for devices that are
- > created for namespaces.
- >
- > Side effects of this are:
- > \* lo device has not 1 index in a namespace. This may break
- > some userspace that relies on it (and AFAIR something
- > really broke in OpenVZ VEs without this);

As it happens lo hasn't been registered first for some time  
so it hasn't had ifindex of 1 in the normal kernel.

- > \* after some time namespaces will have devices with indexes
- > like 1000000 or similar. This might be confusing for a
- > human (tools will not mind).

Only if we wind up creating that many devices.

- > So move the (currently "global" and static) ifindex variable
- > on the struct net, making the indexes allocation look more
- > like on a standalone machine.
- >
- > Moreover - when we have indexes intersect between namespaces,
- > we may catch more BUGs in the future related to "wrong device
- > was found for a given index".

Not yet.

I know there are several data structures internal to the kernel that  
are indexed by ifindex, and not struct net\_device \*. There is the  
iflink field in struct net\_device. We need a way to refer to network  
devices in other namespaces in rnetlink in an unambiguous way. I  
don't see any real problems with a global ifindex assignment until  
we start migrating applications.

So please hold off on this until the kernel has been audited and  
we have removed all of the uses of ifindex that assume ifindex is  
global, that we can find.

Right now a namespace local ifindex seems to be just asking for  
trouble.

Eric

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